AMENDMENTS TO THE CLAIMS:

Please cancel claim 3 without prejudice or disclaimer and amend the claims as follows:

1.   (Currently amended) A ~~computer implemented~~ method for an auction comprising:

establishing an auction system which is accessible via a network, and performs an auction for a plurality of items including a first item and a second item which is different than said first item;

generating ~~by using a processor,~~ a web page including a user interface for entering a plurality of bids in said auction, said user interface displaying:

an area for adding the plurality of bids;

an area for adding a plurality of conditions associated with the plurality of items including a budget condition, a maximum quantity condition, a minimum quantity condition and a precedence condition and a linear condition;

an area for editing said plurality of conditions;

a bid table for displaying the plurality of bids; and

a plurality of areas for displaying the plurality of conditions;

receiving a plurality of bids which are added by a bidder using the user interface, the received plurality of bids including a bid for said first item and a bid for said second item, and receiving a plurality of conditions which are added by a bidder using said user interface, the received plurality of conditions including a condition associated with said first item, a condition associated with said second item, and a condition associated with a set of items including said first item and said second item;

2

displaying the received plurality of bids in the bid table and displaying the received plurality of conditions in the plurality of areas for displaying the plurality of conditions on the user interface;

generating, by using a computer processor, a plurality of proposals for said bidder, a proposal in said plurality of proposals comprising a set of bids in said received plurality of bids that satisfies said received plurality of conditions;

formulating, by using the computer processor, a winner determination problem as an integer program, and solving said integer program to determine whether said generated plurality of proposals are included in a winning solution to said integer program, and displaying on an other user interface a table identifying the generated plurality of proposals and indicating whether said generated plurality of proposals are rejected by the bidder; and

displaying a status of the received plurality of bids in the bid table based on a result of the solving of the integer program,

wherein the received plurality of conditions comprises a first condition and a second condition which is different from the first condition, and the plurality of items comprises plural sets of items including a first set of items subject to the first condition and a second set of items which is different from the first set of items and is subject to the second condition, and

wherein the plurality of conditions characterizes combinations of bids from the bidder for desired items within the auction system.

3

2.   (Previously Presented) A method according to claim 1, wherein the auction system is

selected from a group consisting of an open cry auction, an ascending bid auction, and a

descending bid auction.

3.   (Canceled)

4.   (Previously presented) A method according to claim 1, wherein said plurality of

conditions comprises a budget condition, and

   wherein said method further comprises:

   enabling the auction system such that it is responsive to said budget condition.

5.   (Previously presented) A method according to claim 4, wherein the budget condition

is specified by the bidder.

6.   (Previously presented) A method according to claim 1, wherein said condition

associated with said set of items is selected from the group consisting of a maximum

quantity condition, a minimum quantity condition, a precedence condition, and a general

linear condition.

7.   (Previously presented) A method according to claim 1, further comprising:

   enabling the auction system so that it is responsive to seller conditions.

8.   (Previously presented) A method according to claim 7, wherein the seller conditions specify a minimum value for a combination of items.

9.   (Previously presented) A method according to claim 7, wherein the seller conditions specify a minimum value for a combination of a minimum number of items to be sold.

10.   (Previously presented) A method according to claim 7, wherein the seller conditions specify a minimum value for a combination of items correlated to a precedence relationship.

11.   (Canceled)

12.   (Previously presented) A method according to claim 1 , wherein said network comprises the Internet, said user interface being displayed on said web page on the Internet.

13.   (Currently amended) A <u>non-transitory</u> programmable storage medium executable in a computer system for facilitating an auction, the program medium comprising machine-readable instructions to cause the computer system to execute:

establishing an auction system which is accessible via a network, and performs an auction for a plurality of items including a first item and a second item which is different than said first item;

generating ~~by using a processor,~~ a web page including a user interface for entering a plurality of bids in said auction, said user interface displaying:

an area for adding the plurality of bids;

an area for adding a plurality of conditions associated with the plurality of items including a budget condition, a maximum quantity condition, a minimum quantity condition and a precedence condition and a linear condition;

an area for editing said plurality of conditions;

a bid table for displaying the plurality of bids; and

a plurality of areas for displaying the plurality of conditions;

receiving a plurality of bids which are added by a bidder using the user interface, the received plurality of bids including a bid for said first item and a bid for said second item, and receiving a plurality of conditions which are added by a bidder using said user interface, the received plurality of conditions including a condition associated with said first item, a condition associated with said second item, and a condition associated with a set of items including said first item and said second item;

displaying the received plurality of bids in the bid table and displaying the received plurality of conditions in the plurality of areas for displaying the plurality of conditions on the user interface;

generating a plurality of proposals for said bidder, a proposal in said plurality of proposals comprising a set of bids in said received plurality of bids that satisfies said received plurality of conditions;

formulating a winner determination problem as an integer program, and solving said integer program to determine whether said generated plurality of proposals are included in a winning solution to said integer program, and displaying on an other user interface a table

identifying the generated plurality of proposals and indicating whether said generated

plurality of proposals are rejected by the bidder; and

displaying a status of the received plurality of bids in the bid table based on a result of

the solving of the integer program,

wherein the received plurality of conditions comprises a first condition and a second

condition which is different from the first condition, and the plurality of items comprises

plural sets of items including a first set of items subject to the first condition and a second set

of items which is different from the first set of items and is subject to the second condition,

and

wherein the plurality of conditions characterizes combinations of bids from the bidder

for desired items within the auction system.

14.   (Canceled)

15.   (Previously presented) A method according to claim 1, wherein said integer program

is expressed by the following, subject to conditions specified by bidders in said auction:

$$\text{Max} \quad \sum_{i,\,p} v_{i,p}\, x_{i,p}$$

where $v_{i,\,p}$ denotes a monetary value of a bid that bidder p has placed for item i, and, $x_{i,\,p}$

denotes a decision variable having a value of 0 when said bid is not in a winning

combination, and 1 when said bid is in a winning combination.

16-19. (Canceled)

20.   (Currently Amended) A method of conducting an auction in an auction system in which plural items are offered for auction by a seller, and plural bidders place bids on said plural items, said method comprising:

establishing an auction system which is accessible via the Internet, and performs an auction for a plurality of items including a first item and a second item which is different than said first item;

generating by using a processor, a web page including a user interface for entering a plurality of bids in said auction, said user interface displaying:

an area for adding the plurality of bids;

an area for adding a plurality of conditions associated with the plurality of items including a budget condition, a precedence condition, an alternate precedence condition, a quantity condition and a general linear condition;

an area for editing said plurality of conditions;

a bid table for displaying the plurality of bids; and

a plurality of areas for displaying the plurality of conditions;

receiving a plurality of bids which are added by a bidder using the user interface, the received plurality of bids including a bid for said first item and a bid for said second item, and receiving a plurality of conditions which are added by a bidder using said user interface, the received plurality of conditions including a condition associated with said first item, a

8

condition associated with said second item, and a condition associated with a set of items including said first item and said second item ;

displaying the received plurality of bids in the bid table and displaying the received plurality of conditions in the plurality of areas for displaying the plurality of conditions on the user interface;

generating, by using a computer processor, a plurality of proposals for said bidder, a proposal in said plurality of proposals comprising a set of bids in said received plurality of bids that satisfies said received plurality of conditions;

after said bidder has input said plurality of bid, formulating, by using the computer processor, a winner determination problem including said plurality of conditions and a seller condition as an integer program, and solving said integer program to determine whether said generated plurality of proposals are included in a winning solution to said integer program, and displaying on an other user interface a table identifying the generated plurality of proposals and indicating whether said generated plurality of proposals are rejected by the bidder; and

displaying a status of the received plurality of bids in the bid table based on a result of the solving of the integer program,

wherein said integer program is expressed by the following:

$$\text{Max} \quad \sum_{i,\,p} v_{i,p}\, x_{i,p}$$

where $v_{i,\,p}$ denotes a monetary value of a bid that bidder p has placed for item i, and, $x_{i,\,p}$

denotes a decision variable having a value of 0 when said bid is not in a winning

combination, and 1 when said bid is in a winning combination,

wherein said budget condition specifies a total amount that a bidder is willing to pay

for an item, said precedence condition indicates that bidder will win an item of plural items

only if bidder also wins another item of said plural items, said alternate precedence

condition indicates that a bidder will win an item only if bidder wins all of the items in a

precedence set, said quantity condition specifies one of a maximum quantity and a

minimum quantity of items that said bidder will win, and said general linear condition

indicates a coefficient for said plural items and an upper bound and lower bound on a sum of

coefficients for said plural items, and

wherein said seller condition comprises one of a condition indicating a minimum total

amount that seller will accept for plural items, a condition indicating a minimum quantity of

items in said plural items to be sold, and a precedence condition indicating that an item will

be sold only if another item is sold,

wherein the received plurality of conditions comprises a first condition and a second

condition which is different from the first condition, and the plurality of items comprises

plural sets of items including a first set of items subject to the first condition and a second set

of items which is different from the first set of items and is subject to the second condition,

and

wherein the plurality of conditions characterizes combinations of bids from the bidder

for desired items within the auction system.

21-24. (Canceled)

25. (Previously presented) The method of claim 1, wherein said plurality of areas for entering a plurality of conditions include:

an area for entering a budget condition that specifies that the bidder will win the item only if a total amount of winning bids for said set of items does not exceed a maximum value;

an area for entering a precedence condition that indicates that the bidder will win the item only if the bidder also wins the other item in the set of items;

an area for entering an alternate precedence condition which indicates that the bidder will win the item only if the bidder wins all of the items in the set of items;

an area for entering a maximum quantity condition which specifies that the bidder will win the item only if the bidder wins no more than a maximum quantity of items in the set of items;

an area for entering a minimum quantity condition which specifies that the bidder will win the item only if the bidder wins no less than a minimum quantity of items in the set of items; and

an area for entering a general linear condition which indicates that the bidder will win the item only if a sum of coefficients assigned by the bidder for the set of items is not greater than an upper bound and not less than a lower bound.